REMARKS

Claims 47-106 are pending. Claims 1-20 have been canceled (claims 21-46 were canceled in the first Preliminary Amendment) and claims 47-106 have been added.

The specification has been amended to improve clarity. Claims 47-106 have been added to explicate various features of the invention. No new matter has been added.

With regards to claims 47-53, claim 47 recites "a first track having a first data pattern with a first frequency, a second data pattern with a second frequency that is higher than the first frequency, an AGC field and a burst field, wherein one of the first and second data patterns is located in one of the AGC and burst fields" and "a detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns." None of the prior art of record, alone or in combination, teaches or suggests this approach. For instance, *Klaassen et al.* (U.S. Patent No. 5,130,866) discloses writing a data signal for which clearance and/or instability measurement is taken in a sector of the disk which is not rewritten (col. 5, lines 18-22). However, *Klaassen et al.* fails to teach or suggest locating the data signal in an AGC field or a burst pattern. Therefore, claim 47 (and claims 48-53 which depend thereon) are allowable.

With regards to claims 54-56, claim 53 recites that "the first data pattern is located in the ACG field and the second data pattern is located in the burst field" and claim 54 (which depends on claim 53) recites that "the burst field is one of a C burst field and a D burst field." As the Examiner noted in the parent case, "the prior art of record does not disclose that the first data pattern is recorded in an AG[C] field and the second data pattern is recorded in one of a C burst and a D burst field." (Office Action dated June 5, 1998, page 7, section 13.) Therefore, claim 54 (and claims 55-56 which depend thereon) are allowable.

With regards to claims 57-66, claim 57 recites "a detection circuit that determines whether the head is within an acceptable flying height range in response to a peak count of a detection signal based on the data pattern." As the Examiner noted in the parent case, "the prior art of record does not disclose to determine whether the flying height of the head is within an acceptable range by using a number of peaks detected of a fly height detection signal." (Office Action dated June 5, 1998, page 7, section 14.) Therefore, claim 57 (and claims 58-66 which depend thereon) are allowable.

With regards to claims 67-76, claim 67 recites "a detection circuit that determines whether the head is within an acceptable flying height range in response to a peak count that is based on the random data pattern and is substantially proportional to the flying height of the head." As the Examiner noted in the parent case, "the prior art of record does not disclose to use a random pattern which, when read, results in a peak count that is substantially proportional to the flying height of the head." (Office Action dated June 5, 1998, page 7, section 15.) Therefore, claim 67 (and claims 68-76 which depend thereon) are allowable.

With regards to claims 77-86, claim 77 recites "a detection circuit that determines whether the head is within an acceptable flying height range in response to a peak count that is based on the linearly increasing frequency data pattern." None of the prior art of record, alone or in combination, teaches or suggests this approach. For instance, in *Brown et al.* (U.S. Patent No. 4,777,544), the Harmonic Ratio Flyheight (HRF) method is based on writing a signal whose readback has a spectrum which is constant along the track (column 7, lines 58-61). Thus, *Brown et al.* fails to teach or suggest using a linearly increasing frequency data pattern to detect whether the head is within an acceptable flying height range, and it is unclear how or why *Brown et al.* could be modified to adopt this approach. Therefore, claim 77 (and claims 78-86 which depend thereon) are allowable.

With regards to claims 87-96, claim 87 recites "a detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns while the head is at a substantially constant flying height and independently of flying height data obtained from the disk drive at other than the substantially constant flying height." In *Brown et al.*, calculating the flying height requires adjusting the clearance of the slider over the disks to a reference clearance, such as zero clearance. The Examiner noted in the parent case that "Brown et al. does not require movement of the head to a substantially different vertical distance to determine whether the 'unknown' vertical distance is within an acceptable range since the reference fly height values are already known by a previous determination." (Office Action dated June 5, 1998, page 8, lines 6-9.) In *Brown et al.*, the reference fly height values known by the previous determination are obtained by adjusting the flying height to a different value (such as zero clearance) than the unknown flying height, and the reference flying height values are used to calculate the unknown flying height. Claim 87 explicitly precludes this approach. Therefore, claim 87 (and claims 88-96 which depend thereon) are allowable.

With regards to claims 97-106, claim 97 recites "a detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns while the head is at a substantially constant flying height and independently of flying height data obtained from the disk drive at a predetermined flying height." In *Brown et al.*, as mentioned above, calculating the flying height requires adjusting the clearance of the slider over the disks to a reference clearance, such as zero clearance. The Examiner noted in the parent case, as mentioned above, that "Brown et al. does not require movement of the head to a substantially different vertical distance to determine whether the 'unknown' vertical distance is within an acceptable range since the reference fly height values are already known by a previous determination." (Office Action dated June 5, 1998, page 8, lines 6-9.) In *Brown et al.*, the reference fly height values known by the previous determination are obtained by adjusting the flying height to a known reference value (such as zero clearance), and the reference flying height

values are used to calculate the unknown flying height. Claim 97 explicitly precludes this approach. Therefore, claim 97 (and claims 98-106 which depend thereon) are allowable.

Submitted herewith is (1) an Information Disclosure Statement, and (2) a Terminal Disclaimer based on the parent case.

The fees for the additional claims is calculated as follows:

For	Claims Remaining After Amendment	Highest Number Previously Paid For		Extra Claims	Rate		Additional Fee
Total Claims	60	- 20	=	40	x $18	=	$720
Independent Claims	6	- 3	=	3	x $78	=	$234
Multiple Dep. Claim	0	0				=	0
Total Fee						=	$954

Please charge the $954 fee to Deposit Account No. 13-0016/233-1 and charge any underpayment or credit any overpayment to this Account.

This application is believed to be in condition for allowance. Should any issues arise, the Examiner is encouraged to telephone the undersigned attorney.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231,

on May 25, 1999.

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5/21/99
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Respectfully submitted,

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